



Frequently Asked Questions about VX

What is VX?

VX is odorless and tasteless. It is an oily liquid that is amber in color. It evaporates very slowly. VX is primarily a hazard as a liquid, but if it is heated to very high temperatures, it can turn into small amounts of vapor (gas).

VX is a nerve agent developed for use in chemical warfare. Nerve agents are the most toxic and rapidly acting of the known chemical warfare agents. Nerve agents are similar to certain kinds of insect killers, but much more powerful. VX was developed in the United Kingdom in the 1950s. VX does not occur naturally in the environment.

Under average weather conditions, VX can last for days on objects or surfaces. Under very cold conditions, it can last for months. Because it evaporates so slowly, VX can be a long-term threat as well as a short-term threat. Surfaces contaminated with VX should therefore be considered a long-term hazard.

How can people be exposed to VX?

If VX were released into the air, people could be exposed through skin contact, eye contact, or by breathing in VX mist.

VX does not mix with water as easily as other nerve agents, but it could be released into water. If VX were released into water, people could be exposed by drinking the water or getting it on their skin.

If food were contaminated with VX, people could be exposed by eating the food.

Clothing contaminated with VX vapor can release the nerve agent for about 30 minutes after contact, which can lead to the exposure of other people.

VX breaks down slowly in the body. Repeated exposure to VX and/or other nerve agents can build up in the body.

VX vapor is heavier than air. It will sink to low-lying areas and create a greater exposure hazard there.

How does VX work?

Nerve agents affect the body's "off switch" for glands and muscles. Without an "off switch," the glands and muscles are constantly stimulated. The muscles may get so tired that breathing may stop.

The extent of poisoning caused by VX depends on

- the amount of VX to which a person was exposed,
- the way the person was exposed, and
- how long the person was exposed.

If a person were exposed to VX vapor, symptoms would appear within a few seconds after exposure.

If a person were exposed to VX liquid, symptoms could appear within a few minutes or as long as 18 hours after exposure.

VX is the most potent of all nerve agents. Compared to the nerve agent sarin (also known as GB), VX is much more toxic by entry through the skin, and somewhat more toxic by inhalation. It is possible that any visible VX liquid contact on the skin, unless washed off immediately, would be lethal.

What are the symptoms of VX exposure?

People may not know they were exposed to VX because it has no odor.

People exposed to a low or moderate dose of VX by

- breathing contaminated air
- eating contaminated food or drinking contaminated water
- getting contaminated water on the skin

may experience symptoms. Some or all of the following symptoms may occur within seconds to hours of exposure:

runny nose, watery eyes, small pinpoint pupils, eye pain, blurred vision, drooling and excessive sweating, cough, chest tightness, rapid breathing, diarrhea, increased urination, confusion, drowsiness, weakness, headache, nausea, vomiting and/or abdominal pain, slow or fast heart rate, abnormally low or high blood pressure.

Even a tiny drop of nerve agent on the skin can cause sweating and muscle twitching where the agent touched the skin.

Exposure to a large dose of VX by any route may result in these additional health effects: loss of consciousness, convulsions, paralysis, and respiratory failure possibly leading to death.

Showing these signs and symptoms does not necessarily mean that a person has been exposed to VX.

What are the long-term health effects?

Mild or moderately exposed people usually recover completely. Severely exposed people are not likely to survive. Unlike some pesticides, nerve agents have not been associated with neurological problems lasting more than one to two weeks after the exposure.

How can people protect themselves?

What should they do if they may have been exposed to VX?

Recovery from VX exposure is possible with treatment, but the antidotes must be used quickly to be effective. The best thing to do is avoid exposure.

If you think you may have been exposed to VX, quickly leave the area where the VX was released and get to fresh air. This is highly effective in reducing the possibility of death from exposure to VX vapor.

If the VX release was outdoors, move away from the area where the VX was released. Go to the highest ground possible, because VX is heavier than air and will sink to low-lying areas.

If the VX release was indoors, get out of the building.

If people think they may have been exposed, they should remove their clothing, rapidly wash their entire body with soap and water, and get medical care as quickly as possible.

Removing and disposing of clothing

Quickly take off clothing that has liquid VX on it. Any clothing that has to be pulled over the head should be cut off the body instead of pulled over the head. If possible, seal the clothing in a plastic bag. Then seal the first plastic bag in a second plastic bag. Removing and sealing the clothing in this way will help protect people from any chemicals that might be on their clothes.

If clothes were placed in plastic bags, inform either the local or state health department or emergency personnel upon their arrival. Do not handle the plastic bags. If helping other people remove their clothing, remove the clothing quickly while avoiding contact with contaminated areas.

Washing the body

As quickly as possible, wash any liquid VX from the skin with large amounts of soap and water. If you experience burning eyes or blurred vision, rinse your eyes with plain water for 10 to 15 minutes. If VX has been swallowed, do not induce vomiting or give fluids to drink. Seek medical attention right away. Dial 911 and explain what has happened.

What is the treatment for exposure to VX?

Treatment consists of removing VX from the body as soon as possible and providing supportive medical care in a hospital setting. Antidotes are available for VX. They are most useful if given as soon as possible after exposure.

What is the public health system in New Jersey doing to prepare for a possible biological attack?

New Jersey and the CDC are working together to prepare for all potential health hazards, including bioterrorism.

Activities include:

- Developing plans and procedures to respond to biological attacks
- Training and equipping emergency response teams, gathering samples and performing tests to help state and local governments control infection
- Educating healthcare providers, the media and the general public about what to do in the event of an attack
- Working closely with local health departments, veterinarians and laboratorians to monitor for suspected cases of bioterrorism
- Working with hospitals, laboratories, emergency response teams and healthcare providers to make sure they have the supplies they need in the event of an attack.

Where can I get more information?

- Your healthcare provider
- Your local department of health
- The New Jersey Department of Health and Senior Services

Website – www.nj.gov/health

DHSS Communicable Disease Service at (609) 588-7500

- CDC

www.bt.cdc.gov/agent/VX

1-800-CDC-INFO (4636) for assistance in English and Spanish

TTY 1-888-232-6348

E-mail: cdcinfo@cdc.gov